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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,733	05/12/2005	Juichi Fukatani	Q87781	9008
23373	7590	10/17/2007	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			NAKARANI, DHIRAJLAL S	
		ART UNIT	PAPER NUMBER	
		1794		
		MAIL DATE	DELIVERY MODE	
		10/17/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/534,733	FUKATANI ET AL.
	Examiner D. S. Nakarani	Art Unit 1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12 May 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-33,35-70 and 72-75 is/are rejected.
- 7) Claim(s) 34 and 71 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 12 May 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/12/05 &amp; 8/11/05</u> | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-7, 10, 35, 37, 38, 40-44, 47 and 72-75 are rejected under 35 U.S.C. 102(b) as being anticipated by Toyama et al (U. S. Patent Application Publication US 2003/0139520 A1).

Toyama et al disclose an interlayer and a glass laminate formed using the interlayer. Toyama et al's interlayer comprises 60 parts by weight of 3GO per 100 parts by weight polyvinyl acetal resin. Toyama et al disclose an interlayer having 2 to 4 layers. Toyama et al disclose an interlayer containing metal oxide fine particles for cutting heat rays. Toyama et al disclose a laminated glass structure formed using a transparent material composed of a polycarbonate resin (Paragraphs 0118-0125 and 0129, Tables 1 and 2, Fig. 1 and claims). Toyama et al do not disclose claimed properties of the interlayer and the glass laminate. However since Toyama et al's interlayer contains 60 wt. parts of 3GO plasticizer per 100 parts of polyvinyl acetal resin same as in the present disclosure all properties not specifically mentioned deemed to be inherent unless shown otherwise.

5. Claims 1-33, 35-70 and 72-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyama et al (U. S. Patent Application Publication US 2003/0139520 A1) in view of Karagiannis et al (U. S. Patent 5,482,767).

Toyama et al which has been discussed above fail to disclose inter layer containing crosslinked polyvinyl acetal, rubber particles, transparent elastomer layer and glass plate having thickness 1.8 mm or less.

Karagiannis et al disclose an interlayer and the glass laminate made with the interlayer. Karagiannis et al disclose an interlayer containing crosslinked polyvinyl acetal resin particles having particle size from 1 to 100 microns (Col. 3, lines 52-60). Karagiannis et al disclose that the crosslinked particles improve impact resistance (Col.

3, lines 8-51). Karagiannis et al also disclose additional self-healing layer of polyurethane (Col. 4, lines 25-27). Karagiannis et al's crosslinked polyvinyl acetal particles are deemed to be rubber particles since those particles improves impact resistance. Karagiannis et al glass thickness from 1.8 mm to 2.3 mm (Col. 2, lines 4-5).

Therefore it would have been obvious to a person of ordinary skill in the art at the time of this invention made to utilize disclosure of Karagiannis et al in the invention of Toyama et al to add crosslinked polyvinyl acetal particles in the interlayer to increase impact resistance. It would have been obvious to a person of ordinary skill in the art to optimize properties of glass laminate by varying thicknesses of glass layers, interlayer and the amount of crosslinked particles for desired application.

6. Claims 34 and 71 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims are deemed allowable because art of record does not teach or suggest claimed multilayer interlayer formed using each layer having wedged form.

7. Receipt of Information Disclosure Statement filed May 12, 2005 and August 11, 2005 is acknowledged and all recited documents have been made of record. All recited Japanese documents have been considered to the extent of provided their English abstract.

Art Unit: 1794

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. S. Nakarani whose telephone number is (571) 272-1512. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S. Nakarani/  
**D. S. Nakarani**  
**Primary Examiner**  
**Art Unit 1794**

DSN  
October 14, 2007.